

AMENDMENT TO THE DRAWINGS

Replacement sheets are attached hereto for FIGs. 3A-3C to change the labels as requested by the Examiner:

“FIG. 3a” has been changed to --FIG. 3A--.

“FIG. 3b” has been changed to --FIG. 3B--.

“FIG. 3c” has been changed to --FIG. 3C--.

Also, FIG. 3C has been amended to depict a connection between an application (the exemplary application comprising the program guide for which the program guide engine 204 comprises data, with pages of that data being stored in virtual memory 308 which is accessed by the MMU 306) and the memory management unit (MMU) 306 and between the memory management unit (MMU) 306 and physical memory 304 and bulk storage device 302, such that the memory management unit (MMU) 306 is provided as an interface between the application and the physical memory 304 and the bulk storage device 302.

No new matter is presented because there is adequate support for the amendment to FIG. 3C in at least pages 8-10 (particularly, paragraph [30] on page 8) of the Specification and originally filed claim 1.

REMARKS

By this amendment, claims 1, 3-16, and 18-32 are pending, in which claims 2 and 17 have been previously canceled without prejudice or disclaimer, claim 33 has been withdrawn, no claims are newly presented, and claims 1, 16, 31 and 32 are amended. Claims 1, 16, and 32 are independent. Care was exercised to avoid the introduction of new matter.

The final Office Action mailed October 19, 2007 rejected claim 31 under 35 U.S.C. § 101 as directed to non-statutory subject matter, claims 1, 16, 31, and 32 under 35 U.S.C. § 102(b) as anticipated by *Chang et al.* (“MEDIC: A Memory & Disk Cache for Multimedia Clients”), claims 3-7, 10, 18-22, and 25 as obvious under 35 U.S.C. § 103 based on *Chang et al.* (“MEDIC: A Memory & Disk Cache for Multimedia Clients”) in view of *Baldwin* (US 7,050,061), and claims 8, 9, 11-15, 23, 24, and 26-30 as obvious under 35 U.S.C. § 103 based on *Chang et al.* (“MEDIC: A Memory & Disk Cache for Multimedia Clients”) in view of *Lemmons et al.* (US 2001/0013126). Additionally, claims 1, 3-16 and 18-33 were objected to because of the language “coupled to.”

In response to the § 101 rejection, Applicants have amended claim 31 per the Examiner’s suggestion, and thus, the rejection is overcome.

Regarding the claim objection, independent claims 1 and 16 have now been amended to read that the memory management unit (MMU) is “**provided as an interface**” between said application and said physical memory and said bulk storage device. The Examiner objects to the claims because of a lack of an explanation as to how an application, “which is software,” can be “coupled” to hardware memory devices. A skilled artisan would have understand from a reading of the disclosure of the instant patent application, that the claimed “application,” which may be a software application, is executed by an “engine” (e.g., in the exemplary embodiment, that engine

is a program guide engine, shown at 204 in FIG. 3C). That engine provides virtual addresses to virtual memory 308. The MMU 306 then accesses these virtual addresses and translates them to physical addresses used by RAM 304 and hard disk 302 (see, e.g., paragraph [30] at page 8 of the specification). Thus, it is clear how the MMU is coupled to the application. However, to expedite prosecution, and in an earnest attempt to satisfy the Examiner and place this application in condition for allowance, references in the claims to “coupled” have been replaced by “provided as an interface,” to make it clear that the MMU is a go-between, between the application, as executed by an engine (albeit there is also a virtual memory linking the MMU to the engine), and the physical memory and the bulk storage device. Accordingly, the Examiner’s objection to claims 1, 3-16, and 18-32, should now be overcome.

Applicants respectfully traverse the Examiner’s rejection of claims 1, 16, 31, and 32 under 35 U.S.C. §102 (b) as anticipated by *Chang et al.* The instant claims recite, *inter alia*, “a memory management unit (MMU) provided as an interface between said application and said physical memory and said bulk storage device.” The Examiner equates the algorithm MEDIC of *Chang et al.* to the claimed MMU. However, the MEDIC algorithm, an adaptive, integrated memory-disk buffer manager is provided in the cache manager shown in Figure 1, on page 494 of *Chang et al.* As seen in that Figure 1, any application data, coming from a server over the network, is stored in memory. That memory is managed the cache manager via the MEDIC algorithm. Thus, the application data in *Chang et al.* is input directly into the memory, and while the MEDIC algorithm in the cache manager manages that memory, the algorithm MEDIC, or the cache manager of which it is a part, does **not** form an interface between the application and the physical memory and the bulk storage device, as required by the instant claims.

The Examiner argues (Final Office Action of October 19, 2007-page 9) that MEDIC is an algorithm, presumably running on some type of processor, and does not itself ‘encompass’ any

memory.” Whether MEDIC is run on “some type of processor” is irrelevant. The point being made by Applicants is that the Examiner has identified MEDIC in *Chang et al.* as the claimed “memory management unit.” That being the case, the Examiner must show, in *Chang et al.*, how MEDIC (or the processor running MEDIC) is provided as an interface between the application (application data being received from the network in Figure 1 at page 494) and a physical memory and a bulk storage device. No such relationship between an application, a memory management unit, physical memory and bulk storage device is taught by *Chang et al.* In fact, the recitation of the instant claimed subject matter requires the memory management unit to be separate from the physical memory and the bulk storage device since the memory management unit provides an interface between the application and the memory and storage device. Yet, MEDIC, in *Chang et al.*, appears to be within the cache manager shown in Figure 1. Moreover, in the second full paragraph on page 494, left-hand side, in *Chang et al.*, recites, “MEDIC also gracefully deals with out of order packets using **its memory or disk buffer** to correctly sequence the data given to the decoder” (emphasis added). Thus, by its own words, the reference discloses that the memory and disk buffer form part of MEDIC. Accordingly, any physical memory and bulk storage device in *Chang et al.* are not separate from the memory management unit (MEDIC). Therefore, *Chang et al.* cannot anticipate claims 1, 16, 31, and 32 under U.S.C. §102 (b); and the Examiner is respectfully requested to withdraw this rejection.

Turning to the rejection of claims 3-15, and 18-30 under U.S.C. §103, since the secondary references to *Baldwin* and *Lemmons et al.* do not provide for the deficiencies of *Chang et al.*, as noted *supra*, no *prima facie* case of obviousness has been established.

Accordingly, the Examiner is respectfully requested to withdraw the rejections of claims 3-15 and 18-30 under U.S.C. §103.

Serial No. 09/978,469

Favorable consideration of this application is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned attorney at 310-964-0735 so that such issues may be resolved as expeditiously as possible. All correspondence should continue to be directed to our below-listed address.

Should any fees be associated with this submission, please charge Deposit Account 50-0383.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Anthony J. Orler', written over a horizontal line.

Anthony J. Orler
Registration No. 41,232
Attorney for Applicants

The DIRECTV Group, Inc.
CA/LA1/A109
2230 E. Imperial Highway
P. O. Box 956
El Segundo CA 90245

Telephone No. (310) 964-0735